USAHA PERBAIKAN KESUBURAN TANAH SAWAH TRADISIONAL MELALUI PEMBERIAN *BIOCHAR* SEKAM PADI DI NAGARI TANJUNG BETUNG KABUPATEN PASAMAN

ABSTRAK

Penelitian tentang pengaruh pemberian *biochar* sekam terhadap perbaikan kesuburan tanah lapisan olah dan angkutan hara serta produksi padi pada tanah sawah tradisional di Nagari Tanjung Betung, telah dilakukan penelitian dari bulan Juni hingga Desember 2015, di Jorong Air Hangat, Nagari Tanjung Betung, Kecamatan Rao Selatan, Kabupaten Pasaman. Penelitian ini menggunakan Rancangan Acak Lengkap dengan 6 perlakuan dan 3 ulangan. Perlakuan *biochar* sekam padi yang digunakan yaitu perlakuan 0 ton/ha, 5 ton/ha, 10 ton/ha, 15 ton/ha, 20 ton/ha dan 25 ton/ha. Analisis tanah dan tanaman dilakukan di Laboratorium Jurusan Tanah Fakultas Pertanian Universitas Andalas Padang. Data hasil analisis tanah dan tanaman diuji secara statistik berdasarkan uji T pada taraf 5%. Hasil penelitian menunjukkan pemberian *biochar* sekam padi mempengaruhi sifat kimia tanah sawah. Penambahan *biochar* takaran 25 ton/ha mampu mempengaruhi sifat kimia tanah, yaitu pada kedalaman 0-10 cm kandungan C-organik 23,30 g/kg; N-total 3,23 g/kg; rasio C/N 7,21; P-tersedia 12.04 mg/kg; dan KTK 17,90 me/100 g. Pada kedalaman 10-20 cm kandungan C-organik 14,21 g/kg; N-total 3,47 g/kg; rasio C/N 4,09; P-tersedia 12,04 mg/kg; dan KTK 10,7 me/100 g. Penambahan *biochar* 25 ton/ha juga mempengaruhi angkutan hara tanaman dengan angkutan N 82,24 kg/ha; angkutan P 36,24 kg/ha; angkutan K 59,87 kg/ha dan angkutan Si 9,46 kg/ha. Hasil produksi meningkat 27% dari perlakuan tanpa *biochar*.

Kata kunci: biochar sekam padi, kesuburan tanah, sawah tradisonal

EFFORT IMPROVEMENT OF SOIL FERTILITY OF TRADITIONAL PADDY SOIL BY BIOCHAR HUSK ADDICTION IN NAGARI TANJUNG BETUNG PASAMAN DISTRICT

ABSTRACT

The study on the effect of improvement soil fertility with biochar husk in topsoil, nutrients transport and the rice production in traditional of paddy system soil was conducted. The experiment was carried out from June to December 2015, in Jorong Air Hangat Nagari Tanjung Betung, Rao Selatan, Pasaman District. The experiment was arranged in randomized completely design with 6 treatments and each treatment was replicated 3 times. The treatments were given some biochar husks from 0 ton/ha (control), 5 ton/ha, 10 tons/ha, 15 ton/ha, 20 ton/ha and 25 ton/ha. The soil and plant sampels were analized in the Laboratory of Soil Science, Faculty of Agriculture, University of Andalas Padang. Data was analized statistically with T test at 5% level. The results showed that biochar husk affect soil chemical properties. The dose of 25 ton/ha altered the chemical properties of the soil, at a depth of 0-10 cm C-organic of 23,30 g/kg; N-total of 3,23 g/kg; C/N ratio 7,21; P-available 12,04 mg/kg; and CEC 17,90 me/100 g. At a depth of 10-20 cm C-organic of 14,21 g/kg; N-total of 3,47 g/kg; C/N ratio of 4,09; P-available 12,04 mg/kg; and CEC 10,7 me/100 g. The addition of biochar 25 ton/ha affected nutrient transport of N 82,24 kg/ha; P 36,24 kg/ha; K 59,87 kg/ha and Si 9,46 kg/ha. Meanwhile production of paddy increase by 27% on treatment biochar.

Key word : biochar husk , traditional paddy soil, soil fertility